applying a magnetoresistor half-bridge signal to an inverting input of said signal-conditioning circuit~~;~~, wherein said offset correction ~~a~~ voltage at said noninverting input compensates to drive an output voltage of said signal-conditioning circuit to an input voltage divided by a value of two by calibration for temperature compensation thereof by said signal-conditioning circuit.

2. (Nonamended) The method of claim 1 further comprising the step of:

configuring said signal-conditioning circuit to comprise an InSb signal-conditioning circuit.

3. (Amended) The method of claim 1 further comprising the step of:

configuring said signal-conditioning circuit as a circuit comprising:

a noninverting signal input for application of offset correction voltages;

an inverting input for application of magnetoresistor half bridge signals for temperature compensation thereof.

4. (Nonamended) The method of claim 1 further comprising the step of:

generating said magnetoresistor half-bridge signal utilizing at least one equivalent magnetoresistor configured within said signal-conditioning circuit.

5. (Nonamended) The method of claim 1 further comprising the step of:

generating said magnetoresistor half-bridge signal utilizing a plurality of magnetoresistors configured within said signal-conditioning circuit.

6. (Nonamended) The method of claim 1 further comprising the step of:

configuring said signal-conditioning circuit to comprise at least two magnetoresistors.

7. (Nonamended) The method of claim 1 further comprising the step of:

configuring said signal-conditioning circuit to comprise a first magnetoresistor coupled to a second magnetoresistor at a first node, wherein said first magnetoresistor is coupled to a supply voltage and said second magnetoresistor is coupled to a ground.

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8. (Nonamended) The method of claim 7 further comprising the step of:

configuring said signal-conditioning circuit to comprise a first resistor coupled to a second resistor at a second node, wherein said first resistor is coupled to said supply voltage and said second resistor is coupled to said ground, such that said second node is coupled to a positive input of said amplifier.

9. (Nonamended) The method of claim 8 further comprising the step of:

configuring said signal-conditioning circuit to comprise a third resistor coupled to said first node and to a third node, wherein said third node is connected to a negative input of said amplifier.

10. (Nonamended) The method of claim 9 further comprising the step of:

configuring said signal-conditioning circuit to comprise a fourth resistor coupled to said third node and to an output of said amplifier.

11. (Nonamended) The method of claim 1 further comprising the step of:

configuring said signal-conditioning circuit to comprise at least one magnetoresistor in series with at least one resistor located in an inverting input of an amplifier associated with said signal-conditioning circuit;

wherein said at least one magnetoresistor comprises an InSb magnetoresistor that exhibits a negative scale factor temperature coefficient; and

wherein an associated magnet exhibits a negative scale factor temperature coefficient to thereby permit a gain of said amplifier to increase.

12. (Nonamended) The method of claim 11 further comprising the step of:

configuring said at least one resistor to comprise a fixed low temperature coefficient resistor.

13. (Amended) The method of claim 12 further comprising the step of:

choosing said fixed low temperature coefficient resistor in series with said at least one magnetoresistor to thereby obtain a flat resultant temperature coefficient thereof dependent upon said fixed low temperature coefficient resistor.

14. (Amended) A method for signal-conditioning utilizing a signal-conditioning circuit, said method comprising the step of:

applying an offset correction voltage to a noninverting input of a signal-conditioning circuit;

applying a magnetoresistor half-bridge signal to an inverting input of said signal-conditioning circuit, wherein said offset correction ~~a~~ voltage at said noninverting input compensates to drive an output voltage of said signal-conditioning circuit to an input voltage divided by a value of two for temperature compensation thereof by said signal-conditioning circuit;

configuring said signal-conditioning circuit to comprise at least one magnetoresistor in series with at least one resistor located in an inverting input of an amplifier associated with said signal-conditioning circuit;

wherein said at least one magnetoresistor exhibits a negative scale factor temperature coefficient; and

wherein an associated magnet exhibits a negative scale factor temperature coefficient to thereby permit a gain of said amplifier to increase with temperature.

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15. (Amended) A system for signal-conditioning utilizing a signal-conditioning circuit, said system comprising:

an offset correction voltage applied to a noninverting input of a signal-conditioning circuit;

a magnetoresistor half-bridge signal applied to an inverting input of said signal-conditioning circuit, wherein said offset correction ~~a~~ voltage compensates ~~at~~ to drive an output voltage of said signal-conditioning circuit to an input voltage divided by a value of two by calibration for temperature compensation thereof by said signal-condition circuit.

16. (Nonamended) The system of claim 15 wherein said signal-conditioning circuit comprises an InSb signal-conditioning circuit.

17. (Amended) The system of claim 15 wherein said signal-conditioning circuit comprises:

a noninverting signal input for application of offset correction voltages;

an inverting input for application of magnetoresistor half bridge signals for temperature compensation thereof.

18. (Nonamended) The system of claim 15 wherein said magnetoresistor half-bridge signal is generated utilizing at least one equivalent magnetoresistor configured within said signal-conditioning circuit.

19. (Nonamended) The system of claim 15 wherein said magnetoresistor half-bridge signal is generated utilizing a plurality of magnetoresistors configured within said signal-conditioning circuit.

A1 20. (Nonamended) The system of claim 15 wherein said signal-conditioning circuit comprises at least two magnetoresistors.

21. (Nonamended) The system of claim 15 wherein said signal-conditioning circuit comprises a first magnetoresistor coupled to a second magnetoresistor at a first node, wherein said first magnetoresistor is coupled to a supply voltage and said second magnetoresistor is coupled to a ground.

22. (Nonamended) The system of claim 21 wherein said signal-conditioning circuit comprises a first resistor coupled to a second resistor at a second node, wherein said first resistor is coupled to said supply voltage and said second resistor is coupled to said ground, such that said second node is coupled to a positive input of said amplifier.

23. (Nonamended) The method of claim 22 wherein said signal-conditioning circuit comprises a third resistor coupled to said first node and to a third node, wherein said third node is connected to a negative input of said amplifier.

24. (Nonamended) The system of claim 23 wherein said signal-conditioning circuit comprises a fourth resistor coupled to said third node and to an output of said amplifier.

25. (Amended) The system of claim 15 wherein:

said signal-conditioning circuit comprises at least one magnetoresistor in series with at least one resistor located in an inverting input of an amplifier associated with said signal-conditioning circuit;

wherein said at least one magnetoresistor comprises an InSb that exhibits a negative scale factor temperature coefficient; and

wherein an associated magnet exhibits a negative scale factor temperature coefficient to thereby permit a gain of said amplifier to increase with temperature.

26. (Nonamended) The system of claim 25 wherein said at least one resistor comprises a fixed low temperature coefficient resistor.

27. (Amended) The system of claim 26 wherein said fixed low temperature coefficient resistor is chosen in series with said at least one magnetoresistor to thereby obtain a flat resultant scale factor temperature coefficient thereof dependent upon said fixed low temperature coefficient resistor.

28. (Amended) A system for signal-conditioning utilizing a signal-conditioning circuit, said system comprising:

an offset correction voltage applied to a noninverting input of a signal-conditioning circuit;

a magnetoresistor half-bridge signal applied to an inverting input of said signal-conditioning circuit;